



# TRANSMITTAL FORM

Application Serial Number	09/912,947
Filing Date	July 25, 2001
First Named Inventor	Dahlback
Group Art Unit	Not yet assigned
Examiner Name	Not yet assigned
Attorney Docket No.	INL-036DV
BATCH NO. (after allowance)	Not applicable
Patent No.	Not applicable
Issue Date	Not applicable

## ENCLOSURES (check all that apply)

<input type="checkbox"/> Fee Transmittal Form <input type="checkbox"/> Check Attached Copy of Fee Transmittal Form <input type="checkbox"/> Amendment/Response <input type="checkbox"/> Preliminary <input type="checkbox"/> After Final <input type="checkbox"/> Affidavits/declaration(s) <input type="checkbox"/> Letter to Official Draftsperson including Drawings [Total Sheets <u>      </u> ] <input type="checkbox"/> Petition for Extension of Time <input checked="" type="checkbox"/> Information Disclosure Statement <input checked="" type="checkbox"/> Form PTO-1449 <input type="checkbox"/> Copies of IDS Citations <input type="checkbox"/> Certified Copy of Priority Document(s) <input type="checkbox"/> Sequence Listing submission <input type="checkbox"/> Paper Copy/CD <input type="checkbox"/> Computer Readable Copy <input type="checkbox"/> Statement verifying identity of above	<input type="checkbox"/> Copy of Notice to File Missing Parts of Application (PTO-1553) <input type="checkbox"/> Formal Drawing(s) <input type="checkbox"/> Request For Continued Examination (RCE) Transmittal <input type="checkbox"/> Power of Attorney (Revocation of Prior Powers) <input type="checkbox"/> Terminal Disclaimer <input type="checkbox"/> Executed Declaration and Power of Attorney for Utility or Design Patent Application <input type="checkbox"/> Small Entity Statement <input type="checkbox"/> CD(s) for large table or computer program <input type="checkbox"/> Amendment After Allowance <input type="checkbox"/> Request for Certificate of Correction <input type="checkbox"/> Certificate of Correction (in duplicate)	<input type="checkbox"/> Notice of Appeal to Board of Patent Appeals and Interferences <input type="checkbox"/> Appeal Brief (in triplicate) <input type="checkbox"/> Status Inquiry <input checked="" type="checkbox"/> Return Receipt Postcard <input checked="" type="checkbox"/> Certificate of First Class Mailing under 37 C.F.R. 1.8 <input type="checkbox"/> Certificate of Facsimile Transmission under 37 C.F.R. 1.8 <input type="checkbox"/> Additional Enclosure(s) (please identify below)
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CORRESPONDENCE ADDRESS	SIGNATURE BLOCK
Direct all correspondence to: Patent Administrator Testa, Hurwitz & Thibault, LLP High Street Tower 125 High Street Boston, MA 02110 Tel. No.: (617) 248-7000 Fax No.: (617) 248-7100	Respectfully submitted,   Date: December 12, 2001 Reg. No. 43,153 Tel. No.: (617) 310-8168 Fax No.: (617) 248-7100 Diana M. Steel Attorney for Applicant Testa, Hurwitz & Thibault, LLP High Street Tower 125 High Street Boston, MA 02110



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PATENT  
Attorney Docket No. INL-036DV

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICANT(S): Dahlbäck  
SERIAL NO.: 09/912,947 GROUP NO.: Not yet assigned  
FILING DATE: July 25, 2001 EXAMINER: Not yet assigned  
TITLE: NOVEL ANTICOAGULANT COFACTOR ACTIVITY

**CERTIFICATE OF FIRST CLASS MAILING UNDER 37 C.F.R. 1.8**

I hereby certify that this correspondence, and any document(s) referred to as enclosed herein, is/are being deposited with the United States Postal Service as first class mail, postage prepaid, in an envelope addressed to the Assistant Commissioner for Patents, Washington, DC 20231 on this 12th day of December, 2001.

*Julie Westhaver*  
Julie Westhaver

Assistant Commissioner for Patents  
Washington, D.C. 20231

Sir:

Submitted herewith is/are:

Transmittal Form (1 pg.); Information Disclosure Statement (2 pgs.); Form  
PTO 1449 (4 pgs.); and postcard.



PATENT  
Attorney Docket No. INL-036DV

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

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SERIAL NO.: 09/912,947 GROUP NO.: Not yet assigned  
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Assistant Commissioner for Patents  
Washington, D.C. 20231

INFORMATION DISCLOSURE STATEMENT

Sir:

In accordance with the provisions of 37 C.F.R. 1.97 and 1.98, Applicants hereby make of record the patents and publications listed on the accompanying Form PTO-1449, and other information contained herein, for consideration by the Examiner in connection with the examination of the above-identified patent application. Copies of the patents and publications are enclosed.

This application is a continuation of and claims priority to U.S. Serial No. 08/500,917 under 35 USC § 120. In accordance with 37 CFR 1.98(d) copies of the previously cited patents and publications are not enclosed but are available upon request.

REMARKS

In accordance with the provisions of 37 C.F.R. 1.97, this statement is being filed (CHECK ONE):

- ☒ (1) within three (3) months of the **filing date** of a national application other than a continued prosecution application under 37 C.F.R. 1.53(d), or within three (3) months of the **date of entry of the national stage** as set forth in 37 C.F.R. 1.491 in an international application, or before the mailing of the **first Office action** on the merits, or before the mailing of a **first Office action** after the filing of a request for continued examination under 37 C.F.R. 1.114; or
- ☐ (2) after the period defined in (1) but before the mailing date of a **final action** or a **notice of allowance** under 37 C.F.R. 1.311, and
- ☐ the requisite Statement is below, **OR**

- ☐ the requisite fee under 37 C.F.R. 1.17(p), namely **\$180.00**, is included herein, or
- ☐ (3) after the mailing date of a **final action or notice of allowance** but before the payment of the **issue fee, AND**
- ☐ the requisite Statement is below, **AND**
- ☐ the requisite petition fee under 37 C.F.R. 1.17(p), namely **\$180.00** is included herein.

It is respectfully requested that each of the patents and publications listed on the attached Form PTO-1449, and other information contained herein, be made of record in this application.

### STATEMENT

As required under 37 C.F.R. 1.97(e), Applicant(s), through the undersigned, hereby state either that [check the appropriate space only if either (2) or (3) is checked on the previous page and the Statement is required]:

- ☐ 1. Each item of information contained in the Information Disclosure Statement was first cited in any communication from a foreign patent office in a counterpart foreign application **not more than three months** prior to the filing of the Information Disclosure Statement; or
- ☐ 2. No item of information contained in the Information Disclosure Statement was cited in a communication from a foreign patent office in a counterpart foreign application, and, to the knowledge of the person signing this Statement after making reasonable inquiry, no item of information contained in the Information Disclosure Statement was known to **any individual** designated in 37 C.F.R. 1.56(c) **more than three months** prior to the filing of the Information Disclosure Statement.

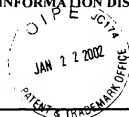

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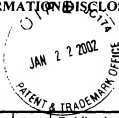















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




Date: December 12, 2001  
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<b>FORM PTO - 149</b>  <b>INFORMATION DISCLOSURE STATEMENT</b>				<b>ATTORNEY DCKET NO.:</b> INL-036DV  <b>APPLICANTS:</b> Dahlbäck  <b>SERIAL NO.:</b> 09/912,947  <b>FILING DATE:</b> July 25, 2001  <b>GROUP:</b> Not yet assigned					
									
U.S. PATENT DOCUMENTS									
EXAM. INIT.		DOCUMENT NUMBER	DATE	NAME	CLASS	SUB CLASS	FILING DATE IF APPROPRIATE		
		A1	5,059,525	10/22/91	Bartl et al.				
		A2	5,051,357	09/24/91	Hassouna				
		A3	5,001,069	03/19/91	Bartl et al.				
		A4	5,169,786	12/08/92	Carroll et al.				
		A5	5,443,960	08/22/95	Dahlbäck				
FOREIGN PATENT DOCUMENTS									
EXAM INIT.		DOCUMENT NUMBER	DATE	COUNTRY CODE	CLASS	SUB CLASS	FILING DATE	ABSTRACT ONLY	ENGLISH LANG (Y/N)
		B1	434,377	1991	EP				
		B2	286,323	1988	EP				
		B3	US91/01383	1991	PCT				
		B4	US90/11368	1990	PCT				
		B5	US91/01382	1991	PCT				
		B6	US91/02812	1991	PCT				
OTHER ART, JOURNAL ARTICLES, ETC.									
EXAM INIT.	<b>OTHER DOCUMENTS: (Including Author, Title, Date, Relevant Pages, Place of Publication)</b>								
	C1	Vasse et al., "Protein C: Rouen A New Hereditary Protein C Abnormality with Low Anticoagulant But Normal Amidolytic Activities", <u>Thrombosis Research</u> , 1:56(3):387-398 (1989)							
	C2	Amer et al., "Impairment of the Protein C Anticoagulant Pathway in a Patient with Systemic Lupus Erythematosus, Anticardiolipin Antibodies and Thrombosis", <u>Thrombosis Research</u> , 57:247-258 (1990)							
	C3	Bauer, "Hypercoagulability-A New Cofactor in the Protein C Anticoagulant Pathway, <u>New England Journal of Medicine</u> , 330:566-567 (1994)							
	C4	Bertina et al., "Mutation in blood coagulation factor V associated with resistance to activated protein C" <u>Nature</u> 369:64-47 (1994)							
	C5	Chromogenix, Coatest APC Resistance Kit instructions, May 1993							
	C6	Chromogenix, Coatest APC Resistance Kit Brochure, June 1993							
	C7	Dahlbäck et al., "Resistance to activated protein C, the FV:Q <sup>306</sup> allele, and venous thrombosis" <u>Ann. Hematol.</u> 72:166-176 (1996)							

FORM PTO - 1449		ATTORNEY DOCKET NO.: INL-036DV
INFORMATION DISCLOSURE STATEMENT		APPLICANTS: Dahlbäck
		SERIAL NO.: 09/912,947
		FILING DATE: July 25, 2001
		GROUP: Not yet assigned
g	C8	Dahlbäck, "New Molecular Insights into the Genetics of Thrombophilia. Resistance to Activated Protein C Caused by Arg <sup>506</sup> to Gln Mutation in Factor V as a Pathogenic Risk Factor for Venous Thrombosis" <u>Thromb. Haemost.</u> 74(1):139-148 (1995)
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	C11	Dahlbäck, B., "A New Model for Coagulation Factor V Suggesting a Unique Mechanism of Activation", <u>Scand. J. Clin. Lab. Invest.</u> , 48, Suppl.191:47-61 (1988)
	C12	Dahlbäck, B., "Factor VIII Defect Associated with . . ." <u>Thrombosis &amp; Haemostasis</u> , 65, Abstract 39:658 (1991).
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	C14	DiScipio, et al., "A Comparison of Human Prothrombin, Factor IX (Christmas Factor), Factor X (Stewart Factor) and Protein S", <u>Biochem.</u> 16:698-704 (1977)
	C15	Esmon, C.T., "The Roles of Protein C and Thrombomodulin in the Regulation of Blood Coagulation", <u>J. Biol. Chem.</u> 264:4743-4746 (1989)
	C16	Esmon, C.T., "The Regulation of Natural Anticoagulant Pathways", <u>Science</u> 235:1348-1352 (1987)
	C17	Esmon, C.T., "Protein C: Biochemistry, Physiology and Clinical Implications", <u>Blood</u> , 62:1155-1158 (1983).
	C18	Faioni, E.M. et al., "Resistance to Activated Protein C in Nine Thrombophilic Families: Interference in a Protein S Functional Assay", <u>Thrombosis and Haemostasis, F.K. Schattauer Verlagsgesellschaft mbH</u> , 70(6):1067-1071 (1993).
	C19	Giddings, J.C., et al., "Chapter 12: Laboratory Support in the Diagnosis of Coagulation Disorders" <u>Clinics in Haematology</u> , 14(2):571-596 (1985)
	C20	Griffin, J. et al., "Anticoagulant Protein C Pathway Defective in Majority of Thrombophilic Patents", <u>Blood</u> , 82(7):1989-1993 (10/1/93)
	C21	Haematol, "Replacement Therapy for a Homozygous Protein C Deficiency-State Using a Concentrate of Human Protein C and S", 70(4):435-440 (Dec. 1988).
	C22	Kalafatis, M., et al., "Role of the Membrane in the Inactivation of Factor Va by Activated Protein C", <u>J. Biol. Chem.</u> 268:27246-27257 (1993)
	C23	Kane and Davie, "Blood Coagulation Factors V and VII: Structural and Functional Similarities and Their Relationship to Hemorrhagic and Thrombotic Disorders", <u>Blood</u> 71(3):539-555 (1988).
y	C24	Katzman, "Isolation of Functional Human Coagulation Factor V by Using a Hybridoma Antibody", <u>Proc. Natl. Acad. Sci. USA</u> , 78(1):162-166 (1981)

<b>FORM PTO - 1449</b> <b>INFORMATIONAL DISCLOSURE STATEMENT</b>		ATTORNEY DOCKET NO.: INL-036DV APPLICANTS: Dahlbäck SERIAL NO.: 09/912,947 FILING DATE: July 25, 2001 GROUP: Not yet assigned
		
           	C25 Kisiel, W., "Human Plasma Protein C: Isolation, Characterization and Mechanism of Activation by Alpha Thrombin", <u>J. Clin. Invest</u> 64:761-769 (1979).	
	C26 Kisiel, et al., "Anticoagulant Properties of Bovine Plasma Protein C Following Activation By Thrombin", <u>Biochem</u> 16:5824-5831 (1977)	
	C27 Kisiel, et al., "Proteolytic activation of Protein C from Bovine Plasma", <u>Biochem.</u> 15:4893-4900 (1976)	
	C28 Laudano, et al., "Synthetic Peptides Modeled on Fibrin Polymerization Sites", <u>Ann NY Acad. Sci.</u> 408:315-329 (1983)	
	C29 Laudano and Doolittle, "Studies on Synthetic Peptides that Bind to Fibrinogen and Prevent Fibrin Polymerization. Structural Requirements, Number of Binding Sites, and Species Differences", <u>Biochemistry</u> 19:1013-1019 (1980)	
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	C31 Marciniak, "Coagulation Inhibitor Elicited by Thrombin", <u>Science</u> 170:452-453 (1970)	
	C32 Miletich, et al., "Absence of Thrombosis in Subjects with Heterozygous Protein C Deficiency", <u>New Eng. J. Med.</u> 317:991-996 (1987)	
	C33 Mitchell et al., "A Fatal Thrombotic Disorder Associated with An Acquired Inhibitor of Protein C", <u>New Eng. J. Med.</u> 317:1638-42 (1987)	
	C34 Pratt, C.W., et al., "Protein C Inhibitor: Purification and Proteinase Reactivity", <u>Thrombos. Res.</u> 53:595-602 (1989)	
	C35 Root-Bernstein and Westall, "Fibrinopeptide A Binds Gly-Pro-Arg-Pro", <u>Proc. Natl. Acad. Sci. (USA)</u> 81:4339-4342 (1984)	
	C36 Salem, et al., "Human Coagulation Factor Va is a Cofactor for the Activation of Protein C", <u>Proc. Nat. Acad. Sci. USA</u> 80:1584-1588 (1983)	
	C37 Seegers, et al., "Relationship of 'New' Vitamin K-Dependent Protein C and 'Old' Autoprothrombin II-A", <u>Thromb. Res.</u> 8:543-552 (1976)	
	C38 Solymoss, et al., "Kinetics of Inactivation of Membrane-bound Factor Va by Activated Protein C. Protein S Modulates Factor Xa Protection", <u>J. Biol. Chem.</u> 263:14884-14890 (1988)	
	C39 Stenflo, "Structure and Function of Protein C", <u>Semin. Thromb. Haemost.</u> 10:109-121 (1984)	
	C40 Suzuki, et al., "Inactivation of Human Coagulation Factor V by Activated Protein C", 258:1914-1920 (1983)	
	C41 Suzuki, "Gene Structure of Human Thrombomodulin, a Thrombin Receptor on Endothelium Acting as a Cofactor for Thrombin-Catalyzed Activation of Protein C", 51(8):1655-1664 (Dec. 1988).	
C42 Takahashi, "Fast Functional Assay of Protein C", <u>Clinica Chimica Acta</u> , 1275:217-226 (1988).		
C43 Tuddenham, E.G.D., "Thrombophilia: a new factor emerges from the mists", <u>The Lancet</u> , 342:1501-1506 (December, 1993)		

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    	C44	Walker and Fay, "Regulation of Blood Coagulation by the Protein C System", <u>FASEB J.</u> 6:2561-2567 (1992)
	C45	Walker, et al., "Inactivation of Factor VIII by Activated Protein C and Protein S", <u>Arch. Biochem. Biophys.</u> 252:322-328 (1987)
	C46	Walker, F., "Protein S and the Regulation of Activated Protein C", <u>Semin. Thromb. Haemost.</u> 10:131-138 (1984)
	C47	Walker, "Regulation of Bovine Activated Procein C By Protein S: The Role of the Cofactor Protein In Species Specificity", <u>Thromb. Res.</u> 22:321-327 (1981)
	C48	Walker, J., "Regulation of Activated Protein C by a New Protein", <u>Biol. Chem.</u> 255:5521-5524 (1980)
	C49	Walker, et al., "The Inhibition of Blood Coagulation by Activated Protein C Through the Selective Inactivation of Activated Factor V", <u>Biochem. Biophys. Acta</u> 571:333-342 (1979)
	C50	Zoller et al., "Linkage between inherited resistance to activated protein C and factor V gene mutation in venous thrombosis", <u>The Lancet</u> 343:1536-1538 (1994)
EXAMINER 		DATE CONSIDERED 7/7/63